Copyright
Submission of a manuscript implies: that the work described has not been published before (expect in the form of an abstract); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders. All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e. g., as offprints), as well as all translation rights. No material published in this journal my be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trade marks, etc., in this publication, even if the former are not specifically identified, is not to be taken as a sign that such names are exempt from the relevant protective laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of going to press, neither the authors nor the editors nor the publisher can accept legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA. Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0012-186X, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Springer-Verlag Berlin Heidelberg New York London Paris Tokyo Hong Kong Barcelona Budapest
Printed in Germany by aprinta Wemding
© Springer-Verlag Berlin Heidelberg 1994
Springer-Verlag GmbH & Co.KG, 14197 Berlin, Germany

Contents

Full instructions to authors

A 5, Issue No. 1; A 5, Issue No. 7

Editorial

Ferrannini, E.: Prologue 1, 1171

Reviews

Biessels, G. J., A. C. Kappelle, B. Bravenboer, D. W. Erkelens, W. H. Gispen: Cerebral function in diabetes mellitus 643
Dahl-Jørgensen, K., O. Brinchmann-Hansen, H.-J. Bangstad, K. F. Hanssen: Blood glucose control and microvascular complications – what do we do now? 1172
Horowitz, M., R. Fraser: Disordered gastric motor function in diabetes mellitus 543
McCarthy, M. I., P. Froguel, G. A. Hitman: The genetics of non-insulin-dependent diabetes mellitus: tools and aims 959
Tesfaye, S., R. Malik, J. D. Ward: Vascular factors in diabetic neuropathy 847

Originals

Aanstoot, H.-J., E. Sigurdsson, M. Jaffe, Y. Shi, S. Christgau, D. Grobbee, G. J. Bruining, J. L. Molenaar, A. Hofman, S. Baekkeskov: Value of antibodies to GAD_{65} combined with islet cell cytoplasmic antibodies for predicting IDDM in a childhood population 917
Alcolado, J. C., A. Majid, M. Brockington, M. G. Sweeney, R. Morgan, A. Rees, A. E. Harding, A. H. Barnett: Mitochondrial gene defects in patients with NIDDM 372
Ampudia-Blasco, F. J., L. Heinemann, R. Bender, A. Schmidt, T. Heise, M. Berger, A. A. R. Starke: Comparative dose-related time-action profiles of glibenclamide and a new non-sulphonylurea drug, AG-EE 623 ZW, during euglycaemic clamp in healthy subjects 703
Amthor, K.-F., K. Dahl-Jørgensen, T. J. Berg, M. Skard Heier, L. Sandvik, Ø. Aagenæs, K. F. Hanssen: The effect of 8 years of strict glycaemic control on peripheral nerve function in IDDM patients: the Oslo Study 579
Atef, N., B. Portha, L. Pénicaud: Changes in islet blood flow in rats with NIDDM 677
Bangstad, H.-J., R. Østerby, K. Dahl-Jørgensen, K. J. Berg, A. Hartmann, K. F. Hanssen: Improvement of blood glucose control in IDDM patients retards the progression of morphological changes in early diabetic nephropathy 483
Barnett, M., G. R. Collier, F. McL. Collier, P. Zimmet, K. O'Dea: A cross-sectional and short-term longitudinal characterisation of NIDDM in Psammomys obesus 671
Bendayan, M., E. Ziv, D. Gingras, R. Ben-Sasson, H. Bar-On, M. Kidron: Biochemical and morpho-cytochemical evidence for the intestinal absorption of insulin in control and diabetic rats. Comparison between the effectiveness of duodenal and colon mucosa 119
Betterle, C., F. Presotto, L. Magrin, B. Pedini, L. Moro, A. Caretto, R. Zanchetta: The natural history of pre-Type 1 (insulin-dependent) diabetes mellitus in patients with autoimmune endocrine diseases 95
Biesenbach, G., J. Zazgornik, H. Stöger, P. Grafinger, R. Hubmann, W. Kaiser, O. Janko, U. Stuby: Abnormal increases in urinary albumin excretion during pregnancy in IDDM women with pre-existing microalbuminuria 905
Bodmer, C. W., E. A. Masson, M. W. Savage, S. Benbow, A. W. Patrick, G. Williams: Asymptomatic peripheral nerve dysfunction and vascular reactivity in IDDM patients with and without microalbuminuria 1056
Boer, S. Y. de, A. A. M. Masclee, W. F. Lam, H. H. P. J. Lemkes, J. Schipper, M. Fröhlich, J. B. M. J. Jansen, C. B. H. W. Lamers: Effect of hyperglycaemia on gallbladder motility in Type 1 (insulin-dependent) diabetes mellitus 75
Boucher, B. J., S. W. B. Ewen, J. M. Stowers: Betel nut (Areca catechu) consumption and the induction of glucose intolerance in adult CD1 mice and in their F1 and F2 offspring 49
Brand, C. L., B. Rolin, P. N. Jørgensen, I. Svendsen, J. S. Kristensen, J. J. Holst: Immunoneutralization of endogenous glucagon with monoclonal glucagon antibody normalizes hyperglycaemia in moderately streptozotocin-diabetic rats 985

Copyright
Submission of a manuscript implies: that the work described has not been published before (expect in the form of an abstract); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders. All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e. g., as offprints), as well as all translation rights. No material published in this journal my be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trade marks, etc., in this publication, even if the former are not specifically identified, is not to be taken as a sign that such names are exempt from the relevant protective laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of going to press, neither the authors nor the editors nor the publisher can accept legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA. Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0012-186X, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Springer-Verlag Berlin Heidelberg New York London Paris Tokyo Hong Kong Barcelona Budapest
Printed in Germany by aprinta Wemding
© Springer-Verlag Berlin Heidelberg 1994
Springer-Verlag GmbH & Co.KG, 14197 Berlin, Germany

Contents

Full instructions to authors

A 5, Issue No. 1; A 5, Issue No. 7

Editorial

Ferrannini, E.: Prologue 1, 1171

Reviews

Biessels, G. J., A. C. Kappelle, B. Bravenboer, D. W. Erkelens, W. H. Gispen: Cerebral function in diabetes mellitus 643
Dahl-Jørgensen, K., O. Brinchmann-Hansen, H.-J. Bangstad, K. F. Hanssen: Blood glucose control and microvascular complications – what do we do now? 1172
Horowitz, M., R. Fraser: Disordered gastric motor function in diabetes mellitus 543
McCarthy, M. I., P. Froguel, G. A. Hitman: The genetics of non-insulin-dependent diabetes mellitus: tools and aims 959
Tesfaye, S., R. Malik, J. D. Ward: Vascular factors in diabetic neuropathy 847

Originals

Aanstoot, H.-J., E. Sigurdsson, M. Jaffe, Y. Shi, S. Christgau, D. Grobbee, G. J. Bruining, J. L. Molenaar, A. Hofman, S. Baekkeskov: Value of antibodies to GAD_{65} combined with islet cell cytoplasmic antibodies for predicting IDDM in a childhood population 917
Alcolado, J. C., A. Majid, M. Brockington, M. G. Sweeney, R. Morgan, A. Rees, A. E. Harding, A. H. Barnett: Mitochondrial gene defects in patients with NIDDM 372
Ampudia-Blasco, F. J., L. Heinemann, R. Bender, A. Schmidt, T. Heise, M. Berger, A. A. R. Starke: Comparative dose-related time-action profiles of glibenclamide and a new non-sulphonylurea drug, AG-EE 623 ZW, during euglycaemic clamp in healthy subjects 703
Amthor, K.-F., K. Dahl-Jørgensen, T. J. Berg, M. Skard Heier, L. Sandvik, Ø. Aagenæs, K. F. Hanssen: The effect of 8 years of strict glycaemic control on peripheral nerve function in IDDM patients: the Oslo Study 579
Atef, N., B. Portha, L. Pénicaud: Changes in islet blood flow in rats with NIDDM 677
Bangstad, H.-J., R. Østerby, K. Dahl-Jørgensen, K. J. Berg, A. Hartmann, K. F. Hanssen: Improvement of blood glucose control in IDDM patients retards the progression of morphological changes in early diabetic nephropathy 483
Barnett, M., G. R. Collier, F. McL. Collier, P. Zimmet, K. O'Dea: A cross-sectional and short-term longitudinal characterisation of NIDDM in Psammomys obesus 671
Bendayan, M., E. Ziv, D. Gingras, R. Ben-Sasson, H. Bar-On, M. Kidron: Biochemical and morpho-cytochemical evidence for the intestinal absorption of insulin in control and diabetic rats. Comparison between the effectiveness of duodenal and colon mucosa 119
Betterle, C., F. Presotto, L. Magrin, B. Pedini, L. Moro, A. Caretto, R. Zanchetta: The natural history of pre-Type 1 (insulin-dependent) diabetes mellitus in patients with autoimmune endocrine diseases 95
Biesenbach, G., J. Zazgornik, H. Stöger, P. Grafinger, R. Hubmann, W. Kaiser, O. Janko, U. Stuby: Abnormal increases in urinary albumin excretion during pregnancy in IDDM women with pre-existing microalbuminuria 905
Bodmer, C. W., E. A. Masson, M. W. Savage, S. Benbow, A. W. Patrick, G. Williams: Asymptomatic peripheral nerve dysfunction and vascular reactivity in IDDM patients with and without microalbuminuria 1056
Boer, S. Y. de, A. A. M. Masclee, W. F. Lam, H. H. P. J. Lemkes, J. Schipper, M. Fröhlich, J. B. M. J. Jansen, C. B. H. W. Lamers: Effect of hyperglycaemia on gallbladder motility in Type 1 (insulin-dependent) diabetes mellitus 75
Boucher, B. J., S. W. B. Ewen, J. M. Stowers: Betel nut (Areca catechu) consumption and the induction of glucose intolerance in adult CD1 mice and in their F1 and F2 offspring 49
Brand, C. L., B. Rolin, P. N. Jørgensen, I. Svendsen, J. S. Kristensen, J. J. Holst: Immunoneutralization of endogenous glucagon with monoclonal glucagon antibody normalizes hyperglycaemia in moderately streptozotocin-diabetic rats 985

Bravenboer, B., P. H. Hendrikse, P. L. Oey, A. C. van Huffelen, C. Groenhout, W. H. Gispen, D. W. Erkelens: Randomized double-blind placebo-controlled trial to evaluate the effect of the $ACTH_{4-9}$ analogue ORG 2766 in IDDM patients with neuropathy 408

Brichard, S. M., L. N. Ongemba, J. Girard, J.-C. Henquin: Tissue-specific correction of lipogenic enzyme gene expression in diabetic rats given vanadate 1065

Burg, M. P. M. van der, O. R. Guicherit, M. Frölich, J. P. Scherft, J. A. Bruijn, H. G. Gooszen: Impact of donor-related variables on islet isolation outcome in dogs 111

Buschard, K., K. Josefsen, S. V. Hansen, T. Horn, M. O. Marshall, H. Persson, J. E. Månsson, P. Fredman: Sulphatide in islets of Langerhans and in organs affected in diabetic late complications: a study in human and animal tissue 1000

Buyse, I., L. A. Sandkuyl, M. Zamani Ghabanbasani, X.-X. Gu, R. Bouillon, M. Bex, L. Dooms, M.-P. Emonds, M. Duhamel, P. Marynen, J.-J. Cassiman: Association of particular HLA class II alleles, haplotypes and genotypes with susceptibility to IDDM in the Belgian population 808

Byrne, C. D., N. J. Wareham, D. C. Brown, P. M. S. Clark, L. J. Cox, N. E. Day, C. R. Palmer, T. W. M. Wang, D. R. R. Williams, C. N. Hales: Hypertriglyceridaemia in subjects with normal and abnormal glucose tolerance: relative contributions of insulin secretion, insulin resistance and suppression of plasma non-esterified fatty acids 889

Cameron, N. E., K. C. Dines, M. A. Cotter: The potential contribution of endothelin-1 to neurovascular abnormalities in streptozotocin-diabetic rats 1209

Cameron, N. E., M. A. Cotter, K. C. Dines, E. K. Maxfield, F. Carey, D. J. Mirrlees: Aldose reductase inhibition, nerve perfusion, oxygenation and function in streptozotocin-diabetic rats: dose-response considerations and independence from a myo-inositol mechanism 651

Cameron, N. E., M. A. Cotter, V. Archibald, K. C. Dines, E. K. Maxfield: Anti-oxidant and pro-oxidant effects on nerve conduction velocity, endoneurial blood flow and oxygen tension in non-diabetic and streptozotocin-diabetic rats 449

Chaillous, L., M. Delamaire, A. Elmansour, D. Maugendre, V. Rohmer, M. G. Joseph, P. Lecomte, J. M. Limal, B. Charbonnel, H. Allannic, P. Sai: Combined analysis of islet cell antibodies which cross-react with mouse pancreas, antibodies to the M_r 64,000 islet protein, and antibodies to glutamate decarboxylase in subjects at risk for IDDM 491

Chakravarthy, U., A. McGinty, J. McKillop, P. Anderson, D. B. Archer, E. R. Trimble: Altered endothelin-1 induced contraction and second messenger generation in bovine retinal microvascular pericytes cultured in high glucose medium 36

Chaturvedi, N., P. M. McKeigue, M. G. Marmot: Relationship of glucose intolerance to coronary risk in Afro-Caribbeans compared with Europeans 765

Chiu, K. C., R. C. P. Go, M. Aoki, A. C. Riggs, Y. Tanizawa, R. T. Acton, D. S. H. Bell, R. L. Goldenberg, J. M. Roseman, M. A. Permutt: Glucokinase gene in gestational diabetes mellitus: population association study and molecular scanning 104

Cook, J. T. E., D. C. Shields, R. C. L. Page, J. C. Levy, A. T. Hattersley, J. A. G. Shaw, H. A. W. Neil, J. S. Wainscoat, R. C. Turner: Segregation analysis of NIDDM in Caucasian families 1231

Cox, A., A. M. Gonzalez, A. G. Wilson, R. M. Wilson, J. D. Ward, C. M. Artlett, K. Welsh, G. W. Duff: Comparative analysis of the genetic associations of HLA-DR3 and tumour necrosis factor alpha with human IDDM 500

Curtin, A., P. Deegan, D. Owens, P. Collins, A. Johnson, G. H. Tomkin: Alterations in apolipoprotein B-48 in the postprandial state in NIDDM 1259

Davies, A. J., A. J. Bone, T. J. Wilkin, H. Rokos, D. R. Cole: Serum biopterin – a novel marker for immune activation during pre-diabetes in the BB rat 466

Deems, R. O., J. L. Evans, R. W. Deacon, C. M. Honer, D. T. Chu, K. Bürki, W. S. Fillers, D. K. Cohen, D. A. Young: Expression of human GLUT4 in mice results in increased insulin action 1097

Del Prato, S., F. Leonetti, D. C. Simonson, P. Sheehan, M. Matsuda, R. A. De Fronzo: Effect of sustained physiologic hyperinsulinaemia and hyperglycaemia on insulin secretion and insulin sensitivity in man 1025

Devlin, J. T., A. Scrimgeour, I. Brodsky, S. Fuller: Decreased protein catabolism after exercise in subjects with IDDM 358

Di Leo, M. A. S., S. Caputo, B. Falsini, V. Porciatti, A. V. Greco, G. Ghirlanda: Presence and further development of retinal dysfunction after 3-year follow up in IDDM patients without angiographically documented vasculopathy 911

Dowd, A., T. H. Thomas, R. Taylor, R. Wilkinson: Erythrocyte sodium-lithium countertransport activity is related to membrane fluidity in IDDM patients 394

Duhault, J., F. Lacour, M. Boulanger, O. Della-Zuana, D. Ravel, M. Wierzbicki, J. Espinal: S15261, a new compound for the treatment of the insulin resistance syndrome 969

Ebeling, P., V. A. Koivisto: Non-esterified fatty acids regulate lipid and glucose oxidation and glycogen synthesis in healthy man 202

Elbein, S. C., M. Hoffman, H. Qin, K. Chiu, Y. Tanizawa, M. A. Permutt: Molecular screening of the glucokinase gene in familial Type 2 (non-insulin-dependent) diabetes mellitus 182

Elving, L. D., J. F. M. Wetzels, H. J. J. van Lier, E. de Nobel, J. H. M. Berden: Captopril and atenolol are equally effective in retarding progression of diabetic nephropathy. Results of a 2-year prospective, randomized study 604

Engerman, R. L., T. S. Kern, M. E. Larson: Nerve conduction and aldose reductase inhibition during 5 years of diabetes or galactosaemia in dogs 141

EURODIAB IDDM Complications Study Group: Microvascular and acute complications in IDDM patients: the EURODIAB IDDM Complications Study 278

Fanelli, C., S. Pampanelli, L. Epifano, A. M. Rambotti, A. Di Vincenzo, F. Modarelli, M. Ciofetta, M. Lepore, B. Annibale, E. Torlone, G. Perriello, P. De Feo, F. Santeusanio, P. Brunetti, G. B. Bolli: Long-term recovery from unawareness, deficient counterregulation and lack of cognitive dysfunction during hypoglycaemia, following institution of rational, intensive insulin therapy in IDDM 1265

Fanelli, C., S. Pampanelli, L. Epifano, A. M. Rambotti, M. Ciofetta, F. Modarelli, A. Di Vincenzo, B. Annibale, M. Lepore, C. Lalli, P. Del Sindaco, P. Brunetti, G. B. Bolli: Relative roles of insulin and hypoglycaemia on induction of neuroendocrine responses to, symptoms of, and deterioration of cognitive function in hypoglycaemia in male and female humans 797

Fennessy, M., K. Metcalfe, G. A. Hitman, M. Niven, P. A. Biro, J. Tuomilehto, E. Tuomilehto-Wolf and the Childhood Diabetes in Finland (DiMe) Study Group: A gene in the HLA class I region contributes to susceptibility to IDDM in the Finnish population 937

Fernandez-Alvarez, J., I. Conget, J. Rasschaert, A. Sener, R. Gomis, W. J. Malaisse: Enzymatic, metabolic and secretory patterns in human islets of Type 2 (non-insulin-dependent) diabetic patients 177

Ferri, C., C. Bellini, G. Desideri, L. Di Francesco, G. De Mattia, A. Santucci, F. Balsano: Salt sensitivity is associated with a hyperinsulinaemic and hyperglycaemic response to atrial natriuretic peptide infusion in human essential hypertension 308

Fujimoto, W. Y., R. W. Bergstrom, D. L. Leonetti, L. L. Newell-Morris, W. P. Shuman, P. W. Wahl: Metabolic and adipose risk factors for NIDDM and coronary disease in third-generation Japanese-American men and women with impaired glucose tolerance 524

Galante, P., E. Maerker, R. Scholz, K. Rett, L. Herberg, L. Mosthaf, H. U. Häring: Insulin-induced translocation of GLUT 4 in skeletal muscle of insulin-resistant Zucker rats 3

Gall, M.-A., P. Rossing, A. Kofoed-Enevoldsen, F. S. Nielsen, H.-H. Parving: Glomerular size- and charge selectivity in Type 2 (non-insulin-dependent) diabetic

patients with diabetic nephropathy 195
Galuska, D., L. A. Nolte, J. R. Zierath, H. Wallberg-Henriksson: Effect of metformin on insulin-stimulated glucose transport in isolated skeletal muscle obtained from patients with NIDDM 826
Gay, L. J., Ph. Schneiter, Y. Schutz, V. Di Vetta, E. Jéquier, L. Tappy: A non-invasive assessment of hepatic glycogen kinetics and post-absorptive gluconeogenesis in man 517
Gilon, P., J. C. Jonas, J. C. Henquin: Culture duration and conditions affect the oscillations of cytoplasmic calcium concentration induced by glucose in mouse pancreatic islets 1007
Gross, D. J., H. Sidi, L. Weiss, T. Kalland, E. Rosenmann, S. Slavin: Prevention of diabetes mellitus in non-obese diabetic mice by Linomide, a novel immunomodulating drug 1195
Grubin, C. E., T. Daniels, B. Toivola, M. Landin-Olsson, W. A. Hagopian, L. Li, A. E. Karlsen, E. Boel, B. Michelsen, Å. Lernmark: A novel radioligand binding assay to determine diagnostic accuracy of isoform-specific glutamic acid decarboxylase antibodies in childhood IDDM 344
Gylling, H., T. A. Miettinen: Serum cholesterol and cholesterol and lipoprotein metabolism in hypercholesterolaemic NIDDM patients before and during sitostanol ester-margarine treatment 773
Hammes, H.-P., M. Brownlee, D. Edelstein, M. Saleck, S. Martin, K. Federlin: Aminoguanidine inhibits the development of accelerated diabetic retinopathy in the spontaneous hypertensive rat 32
Handberg, A., L. Kayser, P. E. Høyer, J. Micheelsen, J. Vinten: Elevated GLUT 1 level in crude muscle membranes from diabetic Zucker rats despite a normal GLUT 1 level in perineurial sheaths 443
Harrison, A. A., P. R. Dunbar, T. J. Neale: Immunoassay of platelet-derived growth factor in the blood of patients with diabetes mellitus 1142
Heickendorff, L., T. Ledet, L. M. Rasmussen: Glycosaminoglycans in the human aorta in diabetes mellitus: a study of tunica media from areas with and without atherosclerotic plaque 286
Holl, R. W., E. Heinze, M. Seifert, M. Grabert, W. M. Teller: Longitudinal analysis of somatic development in paediatric patients with IDDM: genetic influences on height and weight 925
Horio, F., M. Fukuda, H. Katoh, M. Petruzzelli, N. Yano, C. Rittershaus, S. Bonner-Weir, M. Hattori: Reactive oxygen intermediates in autoimmune islet cell destruction of the NOD mouse induced by peritoneal exudate cells (rich in macrophages) but not T cells 22
Houben, A. J. H. M., N. C. Schaper, C. H. A. de Haan, F. C. Huvers, D. W. Slaaf, P. W. de Leeuw, A. C. Nieuwenhuijzen Kruseman: The effects of 7-hour local hyperglycaemia on forearm macro and microcirculatory blood flow and vascular reactivity in healthy man 750
Hughes, S. J., K. Suzuki, Y. Goto: The role of islet secretory functionin the development of diabetes in the GK Wistar rat 863
Hughes, S. J.: The role of reduced glucose transporter content and glucose metabolism in the immature secretory responses of fetal rat pancreatic islets 134
Huijberts, M. S. P., B. H. R. Wolffenbuttel, F. R. L. Crijns, A. C. Nieuwenhuijzen Kruseman, M. H. A. Bemelmans, H. A. J. Struijker Boudier: Aminoguanidine reduces regional albumin clearance but not urinary albumin excretion in streptozotocin-diabetic rats 10
Inchiostro, S., G. Bertoli, G. Zanette, V. Donadon: Evidence of higher insulin resistance in NIDDM patients with ischaemic heart disease 597
Inoue, K., M. Cetkovic-Cvrlje, D. L. Eizirik, V. Grill: Irreversible loss of normal beta-cell regulation by glucose in neonatally streptozotocin diabetic rats 351
Ishii, D. N., D. M. Guertin, L. R. Whalen: Reduced insulin-like growth factor-I mRNA content in liver, adrenal glands and spinal cord of diabetic rats 1073
Ishizuka, T., O. Taniguchi, M. Yamamoto, K. Kajita, T. Nagashima, N. Takeda, H. Inouye, K. Yasuda, K. Miura: Thrombin-induced platelet aggregation, phosphoinositide metabolism and protein phosphorylation in NIDDM patients treated by diet, sulphonylurea or insulin 632
Jaap, A. J., M. S. Hammersley, A. C. Shore, J. E. Tooke: Reduced microvascular hyperaemia in subjects at risk of developing Type 2 (non-insulin-dependent) diabetes mellitus 214
Jeppesen, J., M.-Y. Zhou, Y.-D. I. Chen, G. M. Reaven: Effect of glipizide treatment on postprandial lipaemia in patients with NIDDM 781
Johansson, C., U. Samuelsson, J. Ludvigsson: A high weight gain early in life is associated with an increased risk of Type 1 (insulin-dependent) diabetes mellitus 91
Kashiwagi, A., T. Asahina, M. Ikebuchi, Y. Tanaka, Y. Takagi, Y. Nishio, R. Kikkawa, Y. Shigeta: Abnormal glutathione metabolism and increased cytotoxicity caused by H_2O_2 in human umbilical vein endothelial cells cultured in high glucose medium 264
Katagiri, H., T. Asano, H. Ishihara, K. Inukai, M. Anai, T. Yamanouchi, K. Tsukuda, M. Kikuchi, H. Kitaoka, N. Ohsawa, Y. Yazaki, Y. Oka: Mitochondrial diabetes mellitus: prevalence and clinical characterization of diabetes due to mitochondrial $tRNA^{Leu(UUR)}$ gene mutation in Japanese patients 504
Kautzky-Willer, A., K. Thomaseth, G. Pacini, M. Clodi, B. Ludvik, C. Streli, W. Waldhäusl, R. Prager: Role of islet amyloid polypeptide secretion in insulin-resistant humans 188
Kindmark, H., M. Köhler, P. Arkhammar, S. Efendic, O. Larsson, S. Linder, T. Nilsson, P.-O. Berggren: Oscillations in cytoplasmic free calcium concentration in human pancreatic islets from subjects with normal and impaired glucose tolerance 1121
Knip, M., P. Vähäsalo, J. Karjalainen, R. Lounamaa, H. K. Åkerblom and the Childhood Diabetes in Finland Study Group: Natural history of preclinical IDDM in high risk siblings 388
Ko, I. Y., H. S. Jun, G. S. Kim, J. W. Yoon: Studies on autoimmunity for initiation of beta-cell destruction X. Delayed expression of a membrane-bound islet cell-specific 38 kDa autoantigen that precedes insulitis and diabetes in the diabetes-prone BB rat 460
Kockum, I., R. Wassmuth, E. Holmberg, B. Michelsen, Å. Lernmark: Inheritance of MHC class II genes in IDDM studied in population-based affected and control families 1105
Kodama, H., M. Fujita, I. Yamaguchi: Development of hyperglycaemia and insulin resistance in conscious genetically diabetic (C57BL/KsJ-db/db) mice 739
Lahdenperä, S., P.-H. Groop, M. Tilly-Kiesi, T. Kuusi, T. G. Elliott, G. C. Viberti, M.-R. Taskinen: LDL subclasses in IDDM patients: relation to diabetic nephropathy 681
Lampeter, E. F., I. Seifert, D. Lohmann, J. W. Heise, J. Bertrams, M. R. Christie, V. Kolb-Bachofen, H. Kolb: Inflammatory islet damage in patients bearing HLA-DR 3 and/or DR 4 haplotypes does not lead to islet autoimmunity 471
Lemieux, S., J. P. Després, S. Moorjani, A. Nadeau, G. Thériault, D. Prud' homme, A. Tremblay, C. Bouchard, P. J. Lupien: Are gender differences in cardiovascular disease risk factors explained by the level of visceral adipose tissue? 757
Ling, Z., J. C. Hannaert, D. Pipeleers: Effect of nutrients, hormones and serum on survival of rat islet beta cells in culture 15
Little, R. R., J. D. England, H. M. Wiedmeyer, R. W. Madsen, D. J. Pettitt, W. C. Knowler, D. E. Goldstein: Glycated haemoglobin predicts progression to diabetes mellitus in Pima Indians with impaired glucose tolerance 252
Lorenzen, T., F. Pociot, P. Hougaard, J. Nerup: Long-term risk of IDDM in first-degree relatives of patients with IDDM 321
MacLeod, K. M., D. A. Hepburn, I. J. Deary, G. M. Goodwin, N. Dougall, K. P. Ebmeier, B. M. Frier: Regional cerebral blood flow in IDDM patients: effects of diabetes and of recurrent severe hypoglycaemia 257
Maggs, D. G., I. A. Macdonald, R. B. Tattersall: Thermoregulatory res-

ponses to hyperinsulinaemic hypoglycaemia and euglycaemia in IDDM 689
Mangili, R., G. Deferrari, U. Di Mario, O. Giampietro, R. Navalesi, R. Nosadini, G. Rigamonti, R. Spezia, G. Crepaldi, for the Italian Microalbuminuria Study Group: Arterial hypertension and microalbuminuria in IDDM: The Italian Microalbuminuria Study 1015
Martins, I. J., A. J. Sainsbury, J. C. L. Mamo, T. G. Redgrave: Lipid and apolipoprotein B48 transport in mesenteric lymph and the effect of hyperphagia on the clearance of chylomicron-like emulsions in insulin-deficient rats 238
Mathieu, C., M. Waer, J. Laureys, O. Rutgeerts, R. Bouillon: Prevention of autoimmune diabetes in NOD mice by 1,25 dihydroxyvitamin D_3 552
Matsumoto, C., T. Awata, Y. Iwamoto, T. Kuzuya, T. Saito, Y. Kanazawa: Lack of association of the insulin gene region with Type 1 (insulin-dependent) diabetes mellitus in Japanese subjects 210
McCance, D. R., D. J. Pettitt, R. L. Hanson, L. T. H. Jacobsson, P. H. Bennett, W. C. Knowler: Glucose, insulin concentrations and obesity in childhood and adolescence as predictors of NIDDM 617
McCarthy, M. I., G. A. Hitman, D. C. Shields, N. E. Morton, C. Snehalatha, V. Mohan, A. Ramachandran, M. Viswanathan: Family studies of non-insulin-dependent diabetes mellitus in South Indians 1221
Moatti-Sirat, D., V. Poitout, V. Thomé, M. N. Gangnerau, Y. Zhang, Y. Hu, G. S. Wilson, F. Lemonnier, J. C. Klein, G. Reach: Reduction of acetaminophen interference in glucose sensors by a composite Nafion membrane: demonstration in rats and man 610
Moberg, E., M. Kollind, P.-E. Lins, U. Adamson: Acute mental stress impairs insulin sensitivity in IDDM patients 247
Mølgaard, H., P. D. Christensen, K. Hermansen, K. E. Sørensen, C. K. Christensen, C. E. Mogensen: Early recognition of autonomic dysfunction in microalbuminuria: significance for cardiovascular mortality in diabetes mellitus? 788
Mullokandov, E. A., W. A. Franklin, M. Brownlee: DNA damage by the glycation products of glyceraldehyde 3-phosphate and lysine 145
Murray, P., B. Pitt, R. C. Webb: Ramipril prevents hypersensitivity to phenylephrine in aorta from streptozotocin-induced diabetic rats 664
Nakamura, J., S. A. Lattimer, D. A. Greene: Transphosphatidylation of sugar alcohols and its implications for the pathogenesis of diabetic complications 1147
Nieuwenhuizen, A. G., S. Karlsson, T. Fridolf, B. Ahrén: Mechanisms underlying the insulinostatic effect of peptide YY in mouse pancreatic islets 871
Nolan, C. J., J. Proietto: The feto-placental glucose steal phenomenon is a major cause of maternal metabolic adaptation during late pregnancy in the rat 976
Özçelikay, A. T., C. Pekiner, N. Ari, Y. Öztürk, A. Özüari, V. M. Altan: The effect of vanadyl treatment on vascular responsiveness of streptozotocin-diabetic rats 572
Ogino, Y., S. Okada, Z. Ota: Effects of chronic, urea-induced osmotic diuresis on kidney weight and function in rats 225
Ohmura, T., K. Ueda, Y. Kiyohara, I. Kato, H. Iwamoto, K. Nakayama, K. Nomiyama, S. Ohmori, T. Yoshitake, A. Shinkawa, Y. Hasuo, M. Fujishima: The association of the insulin resistance syndrome with impaired glucose tolerance and NIDDM in the Japanese general population: the Hisayama study 897
Olichon-Berthe, C., S. Hauguel-De Mouzon, P. Péraldi, E. Van Obberghen, Y. Le Marchand-Brustel: Insulin receptor dephosphorylation by phosphotyrosine phosphatases obtained from insulin-resistant obese mice 56
Ørskov, L., M. Worm, O. Schmitz, A. Mengel, P. Sidenius: Nerve conduction velocity in man: influence of glucose, somatostatin and electrolytes 1216
Ortmeyer, H. K., N. L. Bodkin, B. C. Hansen: Relationship of skeletal muscle glucose 6-phosphate to glucose disposal rate and glycogen synthase activity in insulin-resistant and non-insulin-dependent diabetic rhesus monkeys 127
Ottesen, J. L., P. Nilsson, J. Jami, D. Weilguny, M. Dührkop, D. Bucchini, S. Havelund, J. M. Fogh: The potential immunogenicity of human insulin and insulin analogues evaluated in a transgenic mouse model 1178
Pampfer, S., Y. D. Wuu, I. Vanderheyden, R. De Hertogh: In vitro study of the carry-over effect associated with early diabetic embryopathy in the rat 855
Peakman, M., T. Warnock, A. Vats, G. L. McNab, J. Underhill, P. T. Donaldson, D. Vergani: Lymphocyte subset abnormalities, autoantibodies and their relationship with HLA DR types in children with Type 1 (insulin-dependent) diabetes and their first degree relatives 155
Phillips, D. I. W., D. J. P. Barker, C. N. Hales, S. Hirst, C. Osmond: Thinness at birth and insulin resistance in adult life 150
Phillips, D. I. W., S. Hirst, P. M. S. Clark, C. N. Hales, C. Osmond: Fetal growth and insulin secretion in adult life 592
Pimenta, W., N. Nurjhan, P.-A. Jansson, M. Stumvoll, J. Gerich, M. Korytkowski: Glycogen: its mode of formation and contribution to hepatic glucose output in postabsorptive humans 697
Pinkney, J. H., P. J. Bingley, P. A. Sawtell, D. B. Dunger, E. A. M. Gale, The Bart's-Oxford Study Group: Presentation and progress of childhood diabetes mellitus: a prospective population-based study 70
Pueyo, M. E., W. Gonzalez, E. Pussard, J. F. Arnal: Insulin secretion in rats with chronic nitric oxide synthase blockade 879
Rabinovitch, A., W. L. Suarez-Pinzon, Y. Shi, A. R. Morgan, R. C. Bleackley: DNA fragmentation is an early event in cytokine- induced islet beta-cell destruction 733
Reynisdottir, S., H. Wahrenberg, K. Carlström, S. Rössner, P. Arner: Catecholamine resistance in fat cells of women with upper-body obesity due to decreased expression of beta$_2$-adrenoceptors 428
Robinson, A. M., H. M. Parkin, I. A. Macdonald, R. B. Tattersall: Physiological response to postural change during mild hypoglycaemia in patients with IDDM 1241
Roll, U., J. Scheeser, E. Standl, A.-G. Ziegler: Alterations of lymphocyte subsets in children of diabetic mothers 1132
Rossing, P., A.-S. Astrup, U. M. Smidt, H.-H. Parving: Monitoring kidney function in diabetic nephropathy 708
Rossing, P., E. Hommel, U. M. Smidt, H.-H. Parving: Reduction in albuminuria predicts a beneficial effect on diminishing the progression of human diabetic nephropathy during antihypertensive treatment 511
Ruiz, J., J. Thillet, T. Huby, R. W. James, D. Erlich, P. Flandre, P. Froguel, J. Chapman, Ph. Passa: Association of elevated lipoprotein(a) levels and coronary heart disease in NIDDM patients. Relationship with apolipoprotein(a) phenotypes 585
Schaefer, L., R. M. Schaefer, H. Ling, M. Teschner, A. Heidland: Renal proteinases and kidney hypertrophy in experimental diabetes 567
Schalin-Jäntti, C., H. Yki-Järvinen, L. Koranyi, R. Bourey, J. Lindström, P. Nikula-Ijäs, A. Franssila-Kallunki, L. C. Groop: Effect of insulin on GLUT-4 mRNA and protein concentrations in skeletal muscle of patients with NIDDM and their first-degree relatives 401
Schmitz, A., M. Væth, C. E. Mogensen: Systolic blood pressure relates to the rate of progression of albuminuria in NIDDM 1251
Seaquist, E. R., K. Pyzdrowski, A. Moran, A. U. Teuscher, R. P. Robertson: Insulin-mediated and glucose-mediated glucose uptake following hemipancreatectomy in healthy human donors 1036
Sempé, P., M.-F. Richard, J.-F. Bach, C. Boitard: Evidence of CD4 + regulatory T cells in the non-obese diabetic male mouse 337
Simmons, D.: Differences in umbilical cord insulin and birth weight in non-diabetic pregnancies of women from different ethnic groups in New Zealand 930
Sindelka, G., L. Heinemann, M. Berger, W. Frenck, E. Chantelau: Effect of insulin concentration, subcutaneous fat thickness and skin temperature on subcutaneous

insulin absorption in healthy subjects 377
Smith, F. E., S. Bonner-Weir, J. L. Leahy, M. J. Laufgraben, Y. Ogawa, K. M. Rosen, L. Villa-Komaroff: Pancreatic Reg/pancreatic stone protein (PSP) gene expression does not correlate with beta-cell growth and regeneration in rats 994
Starostina, E. G., M. Antsiferov, G. R. Galstyan, Ch. Trautner, V. Jörgens, U. Bott, I. Mühlhauser, M. Berger, I. I. Dedov: Effectiveness and cost-benefit analysis of intensive treatment and teaching programmes for Type 1 (insulin-dependent) diabetes mellitus in Moscow – blood glucose versus urine glucose self-monitoring 170
Stevens, E. J., A. L. Carrington, D. R. Tomlinson: Nerve ischaemia in diabetic rats: time-course of development, effect of insulin treatment plus comparison of streptozotocin and BB models 43
Straub, R. H., U. Thies, A. Jeron, K.-D. Palitzsch, J. Schölmerich: Valid parameters for investigation of the pupillary light reflex in normal and diabetic subjects shown by factor analysis and partial correlation 414
Stubbs, M., D. L. Guberski, A. A. Like: Preservation of GLUT 2 expression in islet beta cells of Kilham Rat Virus (KRV) – infected diabetes-resistant BB/Wor rats 1186
Sundkvist, G., L. A. Velloso, O. Kämpe, S. L. Rabinowe, S. A. Ivarsson, B. Lilja, F. A. Karlsson: Glutamic acid decarboxylase antibodies, autonomic nerve antibodies and autonomic neuropathy in diabetic patients 293
Suzuki, S., Y. Hinokio, S. Hirai, M. Onoda, M. Matsumoto, M. Ohtomo, H. Kawasaki, Y. Satoh, H. Akai, K. Abe, S. Miyabayashi, E. Kawasaki, S. Nagataki, T. Toyota: Pancreatic beta-cell secretory defect associated with mitochondrial point mutation of the $tRNA^{LEU(UUR)}$ gene: a study in seven families with mitochondrial encephalomyopathy, lactic acidosis and stroke-like episodes (MELAS) 818
Tamsma, J. T., J. van den Born, J. A. Bruijn, K. J. M. Assmann, J. J. Weening, J. H. M. Berden, J. Wieslander, E. Schrama, J. Hermans, J. H. Veerkamp, H. H. P. J. Lemkes, F. J. van der Woude: Expression of glomerular extracellular matrix components in human diabetic nephropathy: decrease of heparan sulphate in the glomerular basement membrane 313
Tanizawa, Y., A. C. Riggs, K. C. Chiu, R. C. Janssen, D. S. H. Bell, R. P. C. Go, J. M. Roseman, R. T. Acton, M. A. Permutt: Variability of the pancreatic islet beta cell/liver (GLUT 2) glucose transporter gene in NIDDM patients 420
Tomoda, T., T. Kurashige, T. Taniguchi: Imbalance of the interleukin 2 system in children with IDDM 476
Torlone, E., C. Fanelli, A. M. Rambotti, G. Kassi, F. Modarelli, A. Di Vincenzo, L. Epifano, M. Ciofetta, S. Pampanelli, P. Brunetti, G. B. Bolli: Pharmacokinetics, pharmacodynamics and glucose counterregulation following subcutaneous injection of the monomeric insulin analogue [Lys(B28), Pro(B29)] in IDDM 713
Tsuura, Y., H. Ishida, Y. Okamoto, S. Kato, M. Horie, H. Ikeda, Y. Seino: Reduced sensitivity of dihydroxyacetone on ATP-sensitive K^+ channels of pancreatic beta cells in GK rats 1082
Uccioli, L., G. Monticone, F. Russo, F. Mormile, L. Durola, G. Mennuni, F. Bergamo, G. Menzinger: Autonomic neuropathy and transcutaneous oxymetry in diabetic lower extremities 1051
Uehara, M., H. Kishikawa, S. Isami, K. Kisanuki, Y. Ohkubo, N. Miyamura, T. Miyata, T. Yano, M. Shichiri: Effect on insulin sensitivity of angiotensin converting enzyme inhibitors with or without a sulphydryl group: bradykinin may improve insulin resistance in dogs and humans 300
Undlien, D. E., K. Hamaguchi, A. Kimura, E. Tuomilehto-Wolf, A. B. M. Swai, D. G. McLarty, J. Tuomilehto, E. Thorsby, K. S. Rønningen: IDDM susceptibility associated with polymorphisms in the insulin gene region. A study of blacks, Caucasians and orientals 745
Valdez, R., M. A. Athens, G. H. Thompson, B. S. Bradshaw, M. P. Stern: Birthweight and adult health outcomes in a biethnic population in the USA 624
Velloso, L. A., O. Winqvist, J. Gustafsson, O. Kämpe, F. A. Karlsson: Autoantibodies against a novel 51 kDa islet antigen and glutamate decarboxylase isoforms in autoimmune polyendocrine syndrome type I 61
Verge, C. F., N. J. Howard, M. J. Rowley, I. R. Mackay, P. Z. Zimmet, M. Egan, H. Hulinska, I. Hulinsky, R. A. Silvestrini, S. Kamath, A. Sharp, T. Arundel, M. Silink: Anti-glutamate decarboxylase and other antibodies at the onset of childhood IDDM: a population-based study 1113
Vessby, B., S. Tengblad, H. Lithell: Insulin sensitivity is related to the fatty acid composition of serum lipids and skeletal muscle phospholipids in 70-year-old men 1044
Vestergaard, H., P. H. Andersen, S. Lund, P. Vedel, O. Pedersen: Expression of glycogen synthase and phosphofructokinase in muscle from Type 1 (insulin-dependent) diabetic patients before and after intensive insulin treatment 82
Vettor, R., N. Zarjevski, I. Cusin, F. Rohner-Jeanrenaud, B. Jeanrenaud: Induction and reversibility of an obesity syndrome by intracerebroventricular neuropeptide Y administration to normal rats 1202
Villar-Palasi, C., R. V. Farese: Impaired skeletal muscle glycogen synthase activation by insulin in the Goto-Kakizaki (G/K) rat 885
Virtanen, S. M., T. Saukkonen, E. Savilahti, K. Ylönen, L. Räsänen, A. Aro, M. Knip, J. Tuomilehto, H. K. Åkerblom and the Childhood Diabetes in Finland Study Group: Diet, cow's milk protein antibodies and the risk of IDDM in Finnish children 381
Wagner, R., S. Genovese, E. Bosi, F. Becker, P. J. Bingley, E. Bonifacio, K. A. Miles, M. R. Christie, G. F. Bottazzo, E. A. M. Gale: Slow metabolic deterioration towards diabetes in islet cell antibody positive patients with autoimmune polyendocrine disease 365
Wang, R. N., L. Bouwens, G. Klöppel: Beta-cell proliferation in normal and streptozotocin-treated newborn rats: site, dynamics and capacity 1088
Way, K. J., J. J. Reid: Nitric oxide-mediated neurotransmission is attenuated in the anococcygeus muscle from diabetic rats 232
Wilding, J. P. H., N. Khandan-Nia, W. M. Bennet, S. G. Gilbey, J. Beacham, M. A. Ghatei, S. R. Bloom: Lack of acute effect of amylin (islet associated polypeptide) on insulin sensitivity during hyperinsulinaemic euglycaemic clamp in humans 166
Zhang, H.-J., B. Petersen, R. P. Robertson: Variable regulation by insulin of insulin gene expression in HIT-T15 cells 559
Zierath, J. R., D. Galuska, L. A. Nolte, A. Thörne, J. Smedegaard Kristensen, H. Wallberg-Henriksson: Effects of glycaemia on glucose transport in isolated skeletal muscle from patients with NIDDM: in vitro reversal of muscular insulin resistance 270

Rapid communications

Awata, T., C. Matsumoto, T. Urakami, R. Hagura, S. Amemiya, Y. Kanazawa: Association of polymorphism in the interferon γ gene with IDDM 1159
Bennet, W. M., C. S. Beis, M. A. Ghatei, P. G. H. Byfield, S. R. Bloom: Amylin tonally regulates arginine-stimulated insulin secretion in rats 436
Couper, J. J., K. D. Littleford, R. T. L. Couper, T. Nakamura, A. Ferrante: High glucose and hyperosmolality stimulate hepatocyte growth factor secretion from cultured human mesangial cells 533
Herrera, P. L., D. M. Harlan, L. Fossati, S. Izui, J. Huarte, L. Orci, J. D. Vassalli, P. Vassalli: A $CD8^+$ T-lymphocyte-mediated and $CD4^+$ T-lymphocyte-independent autoimmune diabetes of early onset in transgenic mice 1277
Kikkawa, R., M. Haneda, T. Uzu, D. Koya, T. Sugimoto, Y. Shigeta: Translocation of protein kinase C α and z in rat glomerular mesangial cells cultured under high glucose conditions 838

Kuroyama, H., T. Sanke, S. Ohagi, M. Furuta, H. Furuta, K. Nanjo: Simple tandem repeat DNA polymorphism in the human glycogen synthase gene is associated with NIDDM in Japanese subjects 536
Nishimura, C., T. Saito, T. Ito, Y. Omori, T. Tanimoto: High levels of erythrocyte aldose reductase and diabetic retinopathy in NIDDM patients 328
Rabinovitch, A., O. Sorensen, W. L. Suarez-Pinzon, R. F. Power, R. V. Rajotte, R. C. Bleackley: Analysis of cytokine mRNA expression in syngeneic islet grafts of NOD mice: interleukin 2 and interferon gamma mRNA expression correlate with graft rejection and interleukin 10 with graft survival 833
Rothe, H., A. Faust, U. Schade, R. Kleemann, G. Bosse, T. Hibino, S. Martin, H. Kolb: Cyclophosphamide treatment of female non-obese diabetic mice causes enhanced expression of inducible nitric oxide synthase and interferon-gamma, but not of interleukin-4 1154
Verchere, C. B., D. A. D'Alessio, R. D. Palmiter, S. E. Kahn: Transgenic mice overproducing islet amyloid polypeptide have increased insulin storage and secretion in vitro 725
Villanueva-Peñacarrillo, M. L., A. I. Alcántara, F. Clemente, E. Delgado, I. Valverde: Potent glycogenic effect of GLP-1(7–36)amide in rat skeletal muscle 1163
Zhang, Y., J. T. E. Cook, A. T. Hattersley, R. Firth, P. J. Saker, M. Warren-Perry, M. Stoffel, R. C. Turner: Non-linkage of the glucagon-like peptide 1 receptor gene with maturity onset diabetes of the young 721

For debate

Beck-Nielsen, H., O. Hother-Nielsen, A. Vaag, F. Alford: Pathogenesis of Type 2 (non-insulin-dependent) diabetes mellitus: the role of skeletal muscle glucose uptake and hepatic glucose production in the development of hyperglycaemia. A critical comment 217
Brand Miller, J. C., S. Colagiuri: The carnivore connection: dietary carbohydrate in the evolution of NIDDM 1280
Fontbonne, A.: Why can high insulin levels indicate a risk for coronary heart disease? 953
Jarrett, R. J.: Why is insulin not a risk factor for coronary heart disease? 945
McVeigh, G., G. Brennan, R. Hayes, D. Johnston: Primary nitrate tolerance in diabetes mellitus 115
Reaven, G. M., A. Laws: Insulin resistance, compensatory hyperinsulinaemia, and coronary heart disease 948
Stern, M. P.: The insulin resistance syndrome: the controversy is dead, long live the controversy! 956

Letters to the editor

Alcolado, J. C., J. A. E. Rees, D. R. Owens: Selection of control subjects in genetic studies of diabetes mellitus 640
Blanché, H., Ph. Froguel, J. Dausset, D. Cohen, N. Cohen: Non-isotopic and sensitive method for diagnosis of maternally-inherited diabetes and deafness 842
Boucher, B. J., J. M. Stowers, S. W. B. Ewen: Response from the authors 1063
Ceriello, A.: d-Lysine and non-enzymatic glycation 440
Chantelau, E.: Ankle/arm pressure index in diabetes mellitus 223
Dowse, G. K.: Betal-nut chewing and diabetes in Papua New Guinea and elsewhere 1062
Gembal, M., J. Drużyńska, M. Kowalczyk, E. Przepiera, M. Cybal, W. Arendarczyk, Cz. Wójcikowski: The effect of ascorbic acid on protein glycation in streptozotocin-diabetic rats 731
Harik, S. I., R. A. Behmand, J. R. Murphy: Stability of the glucose transporter in plasma membranes of human erythrocytes 730
Hart, L. M. 't, H. H. P. J. Lemkes, R. J. Heine, R. P. Stolk, E. J. M. Feskens, J. J. Jansen, F. E. E. van der Does, D. E. Grobbee, D. Kromhout, J. M. W. van den Ouweland, J. A. Maassen: Prevalence of maternally inherited diabetes and deafness in diabetic populations in the Netherlands 1169
Ionescu-Tirgoviste, C.: Safe transferring of intensified insulin therapy 331
Jensen, A. G., D. Møller Jensen, R. Smith Pedersen, J. Kvetny: Isolated hyperproinsulinaemia heralding diabetes mellitus? 729
Jungmann, E., C. Carlberg, P.-M. Schumm-Draeger: Impact of glycaemic control on urinary albumin excretion in patients with Type 2 (non-insulin-dependent) diabetes mellitus 441
Kempler, P., Zs. Kerényi, Gy. Tamás: Autonomic neuropathy: comparison of two screening procedures 1168
Kolb, H., R. B. Elliott: Increasing incidence of IDDM a consequence of improved hygiene? 729
Löhr, J.-M.: Diabetes mellitus due to viruses – some recent developments 222
Malaisse, W. J.: Is glucokinase the beta-cell gluco-receptor? 442
Miller, M. A. W., C. S. Thompson, J. Y. Jeremy: Diabetic erectile dysfunction – is prevention possible? 336
Mühlhauser, I., V. Jörgens, M. Berger: Response from the authors 332
Neil, H. A. W., M. M. Hawkins, M. H. N. Potock, J. I. Mann: Prognostic value of urinary albumin concentration in diabetic patients surviving the first 5 years after assessment 1287
Nelson, M., B. M. Margetts, A. E. Black: Editorial guidelines for the methods section of dietary investigations 222
Patiño, F.: Increased plasma endothelin in diabetes: an atherosclerosis marker? 334
Pei, D., C. N. O. Jones, R. Bhargava, Y.-D. I. Chen, G. M. Reaven: Evaluation of octreotide to assess insulin-mediated glucose by the insulin suppression test 843
Pickup, J. C., G. D. Chusney, M. A. Crook, G. C. Viberti: Hypomagnesaemia in IDDM patients with microalbuminuria and clinical proteinuria 639
Pozzilli, P., R. Buzzetti, G. F. Bottazzo, R. Tosi: Response from the authors 846
Pozzilli, P.: Response from the authors 640
Quin, J. D., J. P. Miell, K. Smith, D. Gordon, J. Strachan, J. B. C. Dick, A. C. MacCuish: Effect of insulin-like growth factor-I therapy on erythropoetin concentrations in extreme insulin resistance 439
Reach, G., V. Poitout: Response from the authors 541
Schiavi, R. C., B. Stimmel, J. Mandeli, E. J. Rayfield: Response from the authors 336
Sensi, M.: Response from the author 440
Simpson, L. O.: Essential fatty acid treatment of rats with experimental diabetes: comment 331
Staines, A.: Selection of control subjects for case/control analysis of susceptibility to Type 1 (insulin-dependent) diabetes mellitus 845
Stehouwer, C. D. A.: Response from the author 334
Sternberg, F., C. Meyerhoff, F. J. Mennel, F. Bischof, H. Mayer, E. F. Pfeiffer: Comments on subcutaneous glucose monitoring 540
Tesfaye, S., J. D. Ward: Response from the authors 1168
Wascher, T. C., H. Toplak: Endothelial dysfunction and diabetic angiopathy 1167
Young, M.: Response from the author 223

Book reviews

224, 641, 1170, 1288

Errata

642, 732

Announcement

846

List of referees

1289

Author Index

1293

Subject Index

1298

EASD News Section

1, 11, 15, 17, 19, 21, 27, 33, 39, 41, 53, 57

Organisation section

52, 63

Supplement 1 to Volume 37

Abstracts A1
Agenda for the 30th General Assembly of the European Association for the Study of Diabetes, Düsseldorf, 30 September 1994 VI
Author Index A219
Minutes of the 29th General Assembly of the European Association for the Study of Diabetes, Istanbul, 8 September 1993 I
Organisation section A234

Supplement 2 to Volume 37

R. Landgraf: Introduction S1
D. Melloul, E. Cerasi: Transcription of the insulin gene: towards defining the glucose sensitive *cis*-element and *trans*-acting factors S3
B. Hellman, E. Gylfe, P. Bergsten, E. Grapengiesser, P. E. Lund, A. Berts, A. Tengholm, D. G. Pipeleers, Z. Ling: Glucose induces oscillatory Ca2+ signalling and insulin release in human pancreatic beta cells S11
S. J. H. Ashcroft: Protein phosphorylation and beta-cell function S21
S. L. Howell, P. M. Jones, S. J. Persaud: Regulation of insulin secretion: the role of second messengers S30
W. J. Malaisse: The beta cell in NIDDM: giving light to the blind S36
E. Van Schaftingen: Short-term regulation of glucokinase S43
J. C. Hutton: Insulin secretory granule biogenesis and the proinsulin-processing endopeptidases S48
D. Pipeleers, R. Kiekens, Z. Ling, A. Wilikens, F. Schuit: Physiologic relevance of heterogeneity in the pancreatic beta-cell population S57
P. A. Halban: Proinsulin processing in the regulated and the constitutive secretory pathway S65
Å. Lernmark: Molecular biology of IDDM S73
J. Nerup, T. Mandrup-Poulsen, S. Helqvist, H. U. Andersen, F. Pociot, J. I. Reimers, B. G. Cuartero, A. E. Karlsen, U. Bjerre, T. Lorenzen: On the pathogenesis of IDDM S82
C. Boitard, E. Larger, J. Timsit, P. Sempe, J. F. Bach: IDDM: an islet or an immune disease? S90
J. Wahren, B.-L. Johansson, H. Wallberg-Henriksson: Does C-peptide have a physiological role? S99
K. D. Hepp: Implantable insulin pumps and metabolic control S108
I.-B. Täljedal, C. L. Shi, P. Rooth: Functional aspects of mouse islets transplanted to the kidney S112
J.-L. Carpentier: Insulin receptor internalization: molecular mechanisms and physiopathological implications S117
E. Van Obberghen: Signalling through the insulin receptor and the insulin-like growth factor-I receptor S125
P. De Meyts: The structural basis of insulin and insulin-like growth factor-I receptor binding and negative co-operativity, and its relevance to mitogenic versus metabolic signalling S135
H. U. Häring, M. Kellerer, L. Mosthaf: Modulation of insulin receptor signalling: significance of altered receptor isoform patterns and mechanism of hyperglycaemia-induced receptor modulation S149
P. J. Randle, D. A. Priestman, S. Mistry, A. Halsall: Mechanisms modifying glucose oxidation in diabetes mellitus S155
C. N. Hales: The pathogenesis of NIDDM S162
B. Jeanrenaud: Central nervous system and peripheral abnormalities: clues to the understanding of obesity and NIDDM S169
E. R. Froesch, M. Hussain: Recombinant human insulin-like growth factor-I: a therapeutic challenge for diabetes mellitus S179
P. F. Freychet: Summary S186